

**1. Design an app to which is capable of displaying “GOOD MORNING” to the user. (Use Toast and TextView).**

**Ans :** APP name: GM

**activity\_main.xml**

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:id="@+id/main"
android:layout_width="match_parent"
android:layout_height="match_parent"
tools:context=".MainActivity">

<TextView
    android:id="@+id/textView"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Good mornning!"
    android:textSize="34sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.497"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.215" />

<Button
    android:id="@+id/button"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="112dp"
    android:text="Button"
    android:textSize="24sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.498"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView"
    app:layout_constraintVertical_bias="0.093" />
```

</androidx.constraintlayout.widget.ConstraintLayout>

## MainActivity.java

```
package com.example.gm;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.Toast;

import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

public class MainActivity extends AppCompatActivity {

    private Button button;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_main);
        button=findViewById(R.id.button);

        button.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Toast.makeText( MainActivity.this, "toast activated!",
                Toast.LENGTH_SHORT).show();
            }
        });
        ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main), (v,
insets) -> {
            Insets systemBars =
insets.getInsets(WindowInsetsCompat.Type.systemBars());
            v.setPadding(systemBars.left, systemBars.top, systemBars.right,
```

```

systemBars.bottom);
    return insets;
});
}
}

```

## 2. Design an app which is capable of adding two numbers entered by the user.

**Ans:** App name: Addu

### activity\_main.xml

```

<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:id="@+id/main"
android:layout_width="match_parent"
android:layout_height="match_parent"
tools:context=".MainActivity">

<TextView
    android:id="@+id/textView"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Addition Of Two Numbers."
    android:textSize="24sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.39" />

<EditText
    android:id="@+id/editTextNumber"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="52dp"

```

```
android:ems="10"
android:inputType="number"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.437"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/textView"
app:layout_constraintVertical_bias="0.0" />
```

<EditText

```
android:id="@+id/editTextNumber2"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:ems="10"
android:inputType="number"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.437"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/editTextNumber"
app:layout_constraintVertical_bias="0.042" />
```

<Button

```
android:id="@+id/button"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginTop="52dp"
android:text="Submit"
android:textSize="24sp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.463"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/textView2"
app:layout_constraintVertical_bias="0.0" />
```

<TextView

```
android:id="@+id/textView2"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginTop="44dp"
```

```
android:textSize="20sp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.472"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/editTextNumber2"
app:layout_constraintVertical_bias="0.049" />
```

```
</androidx.constraintlayout.widget.ConstraintLayout>
```

## MainActivity.java

```
package com.example.addu;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;

import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

public class MainActivity extends AppCompatActivity {

    private EditText editTextNumber;
    private EditText editTextNumber2;
    private Button button;

    private TextView textView2;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_main);
        button=findViewById(R.id.button);
        editTextNumber=findViewById(R.id.editTextNumber);
        editTextNumber2=findViewById(R.id.editTextNumber2);
        textView2=findViewById(R.id.textView2);
```

```

button.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String a=editTextNumber.getText().toString();
        String b=editTextNumber2.getText().toString();
        int num1=Integer.parseInt(a);
        int num2=Integer.parseInt(b);
        int add=num1+num2;
        textView2.setText("Addition of both number is "+add);
    }
});

```

```

ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main), (v, insets)
->{
    Insets systemBars = insets.getInsets(WindowInsetsCompat.Type.systemBars());
    v.setPadding(systemBars.left, systemBars.top, systemBars.right,
systemBars.bottom);
    return insets;
});
}
}

```

### 3. Design an app which is capable of computing average of three numbers.

**Ans:** App name: Avg

#### activity\_main.xml

```

<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:id="@+id/main"
android:layout_width="match_parent"

```

```
android:layout_height="match_parent"
tools:context=".MainActivity">
```

```
<TextView
    android:id="@+id/textView"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Average of Three Numbers"
    android:textSize="24sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.1" />
```

```
<EditText
    android:id="@+id/editText"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="12dp"
    android:ems="10"
    android:inputType="numberDecimal"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.358"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView"
    app:layout_constraintVertical_bias="0.005" />
```

```
<EditText
    android:id="@+id/editText1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="12dp"
    android:ems="10"
    android:inputType="numberDecimal"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.358"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/editText"
```

```
app:layout_constraintVertical_bias="0.0" />
```

```
<EditText
```

```
    android:id="@+id/editText2"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:layout_marginTop="12dp"  
    android:ems="10"  
    android:inputType="numberDecimal"  
    app:layout_constraintBottom_toBottomOf="parent"  
    app:layout_constraintEnd_toEndOf="parent"  
    app:layout_constraintHorizontal_bias="0.358"  
    app:layout_constraintStart_toStartOf="parent"  
    app:layout_constraintTop_toBottomOf="@+id/editText1"  
    app:layout_constraintVertical_bias="0.013" />
```

```
<TextView
```

```
    android:id="@+id/textView2"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:layout_marginTop="44dp"  
    android:textSize="20sp"  
    app:layout_constraintBottom_toBottomOf="parent"  
    app:layout_constraintEnd_toEndOf="parent"  
    app:layout_constraintHorizontal_bias="0.419"  
    app:layout_constraintStart_toStartOf="parent"  
    app:layout_constraintTop_toBottomOf="@+id/editText2"  
    app:layout_constraintVertical_bias="0.0" />
```

```
<Button
```

```
    android:id="@+id/button"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:layout_marginTop="24dp"  
    android:text="Submit"  
    android:textSize="24sp"  
    app:layout_constraintBottom_toBottomOf="parent"  
    app:layout_constraintEnd_toEndOf="parent"  
    app:layout_constraintHorizontal_bias="0.461"  
    app:layout_constraintStart_toStartOf="parent"  
    app:layout_constraintTop_toBottomOf="@+id/textView2"
```



```
        app:layout_constraintVertical_bias="0.0" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

## MainActivity.java

```
package com.example.avg;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;

import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

public class MainActivity extends AppCompatActivity {
    private EditText editText;
    private EditText editText1;
    private EditText editText2;
    private TextView textView2;
    private Button button;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_main);

        button=findViewById(R.id.button);
        editText=findViewById(R.id.editText);
        editText1=findViewById(R.id.editText1);
        editText2=findViewById(R.id.editText2);
        textView2=findViewById(R.id.textView2);

        button.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String a=editText.getText().toString();
                String b=editText1.getText().toString();
```

```

String c= editText2.getText().toString();
int num1=Integer.parseInt(a);
int num2=Integer.parseInt(b);
int num3=Integer.parseInt(c);
double avg=(num1+num2+num3)/3;
textView2.setText("Average of three number is: "+avg);
}
});

```

```

ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main), (v, insets)
->{
    Insets systemBars = insets.getInsets(WindowInsetsCompat.Type.systemBars());
    v.setPadding(systemBars.left, systemBars.top, systemBars.right,
systemBars.bottom);
    return insets;
});
}
}

```

#### 4. Design an app to check whether a number is add or even.

Ans: App name: EveOdd

##### activity\_main.xml

```

<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:id="@+id/main"
android:layout_width="match_parent"
android:layout_height="match_parent"
tools:context=".MainActivity">

<TextView
    android:id="@+id/textView"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Even-Odd Checker"
    android:textSize="24sp"
    app:layout_constraintBottom_toBottomOf="parent"

```

```
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.423"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.097" />
```

<EditText

```
android:id="@+id/editTextNumber"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginTop="24dp"
android:ems="10"
android:inputType="number"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.457"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.223" />
```

<TextView

```
android:id="@+id/textView2"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginTop="28dp"
android:textSize="20sp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/editTextNumber"
app:layout_constraintVertical_bias="0.0" />
```

<Button

```
android:id="@+id/button"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginTop="40dp"
android:text="Button"
android:textSize="16sp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
```

```
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/textView2"
        app:layout_constraintVertical_bias="0.0" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

## MainActivity.java

```
package com.example.eveodd;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;

import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

public class MainActivity extends AppCompatActivity {

    private Button button;
    private EditText editTextNumber;
    private TextView textView1;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_main);
        editTextNumber=findViewById(R.id.editTextNumber);
        textView1=findViewById(R.id.textView2);
        button=findViewById(R.id.button);
        button.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String a=editTextNumber.getText().toString();
                int num=Integer.parseInt(a);
                if (num%2==0){
                    textView1.setText("Number is Even ");
                }
            }
        })
    }
}
```

```

        else {
            textView1.setText("Number is Odd.");
        }
    }
});

ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main), (v, insets)
-> {
    Insets systemBars = insets.getInsets(WindowInsetsCompat.Type.systemBars());
    v.setPadding(systemBars.left, systemBars.top, systemBars.right,
systemBars.bottom);
    return insets;
});
}
}

```

## 5. Design an app which is capable of converting Kg to Pound. (1 kg=2.205 pound)

**Ans: App name: Poukg**

### **activity\_main.xml**

```

<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:id="@+id/main"
android:layout_width="match_parent"
android:layout_height="match_parent"
tools:context=".MainActivity">

<TextView
    android:id="@+id/textView"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Kg To Pound Convertor"
    android:textSize="24sp"
    android:textStyle="bold"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"

```

```
app:layout_constraintHorizontal_bias="0.496"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.092" />
```

<EditText

```
android:id="@+id/editTextNumberDecimal"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginTop="36dp"
android:ems="10"
android:inputType="numberDecimal"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.497"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/textView"
app:layout_constraintVertical_bias="0.037" />
```

<TextView

```
android:id="@+id/textView2"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginTop="20dp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.453"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/editTextNumberDecimal"
app:layout_constraintVertical_bias="0.02" />
```

<Button

```
android:id="@+id/button"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginTop="36dp"
android:text="Submit"
android:textSize="20sp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.456"
```

```
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/textView2"
app:layout_constraintVertical_bias="0.0" />
```

```
</androidx.constraintlayout.widget.ConstraintLayout>
```

## MainActivity.java

```
package com.example.poukg;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;

import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

public class MainActivity extends AppCompatActivity {

    private Button button;

    private TextView textView2;
    private EditText editTextNumberDecimal;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_main);
        button=findViewById(R.id.button);
        textView2=findViewById(R.id.textView2);
        editTextNumberDecimal=findViewById(R.id.editTextNumberDecimal);
        button.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                // Toast.makeText( MainActivity.this, "toast activated!",
```

```

Toast.LENGTH_SHORT).show();
        String s=editTextNumberDecimal.getText().toString();
        int kg=Integer.parseInt(s);
        double pound = 2.205 * kg;
        textView2.setText("The correspondence value in Pound is " + pound);
    }
});
ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main), (v, insets)
->{
    Insets systemBars = insets.getInsets(WindowInsetsCompat.Type.systemBars());
    v.setPadding(systemBars.left, systemBars.top, systemBars.right,
systemBars.bottom);
    return insets;
});
}
}

```

## 6. Design an app which is capable of converting temperature from Fahrenheit to Celsius.

**Ans: App name: TempFar**

### **activity\_main.xml**

```

<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginBottom="660dp"
        android:text="Fahrenheit to Celsius Convertor"
        android:textSize="24sp"
        app:layout_constraintBottom_toBottomOf="parent"

```



```
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.493"
app:layout_constraintStart_toStartOf="parent" />
```

<EditText

```
android:id="@+id/editTextNumber"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginTop="36dp"
android:ems="10"
android:inputType="numberDecimal"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.417"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/textView"
app:layout_constraintVertical_bias="0.0" />
```

<TextView

```
android:id="@+id/textView2"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginTop="44dp"
android:textSize="16sp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.569"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/editTextNumber"
app:layout_constraintVertical_bias="0.01" />
```

<Button

```
android:id="@+id/button"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginTop="64dp"
android:text="submit"
android:textSize="24sp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.444"
```

```
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView2"
    app:layout_constraintVertical_bias="0.0" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

## MainActivity.java

```
package com.example.tempfar;
```

```
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
```

```
import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;
```

```
public class MainActivity extends AppCompatActivity {
    private Button button;
    private EditText editTextNumber;
    private TextView textView2;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_main);
        editTextNumber=findViewById(R.id.editTextNumber);
        textView2=findViewById(R.id.textView2);
        button=findViewById(R.id.button);
        button.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String a=editTextNumber.getText().toString();
                double num=Integer.parseInt(a);
                double celcius=(num-32)*5/9;
                textView2.setText("Converted value from °F to °C is: "+celcius);
            }
        });
    }
}
```

```

ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main), (v, insets)
->{
    Insets systemBars = insets.getInsets(WindowInsetsCompat.Type.systemBars());
    v.setPadding(systemBars.left, systemBars.top, systemBars.right,
systemBars.bottom);
    return insets;
});
}
}

```

## 7. Design a Layout which looks like this.

**Ans: App name: HIT\_logo**

### activity\_main.xml

```

<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:id="@+id/main"
android:layout_width="match_parent"
android:layout_height="match_parent"
tools:context=".MainActivity">

<EditText
    android:id="@+id/editTextText"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginBottom="408dp"
    android:ems="10"
    android:inputType="text"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.786"
    app:layout_constraintStart_toStartOf="parent" />

<TextView
    android:id="@+id/textView"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"

```

```
android:layout_marginEnd="4dp"
android:text="Name :"
android:textSize="20sp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toStartOf="@+id/editTextText"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.419" />
```

```
<TextView
    android:id="@+id/textView2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="40dp"
    android:text="Address :"
    android:textSize="20sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.128"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView"
    app:layout_constraintVertical_bias="0.0" />
```

```
<EditText
    android:id="@+id/editTextText2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="16dp"
    android:ems="10"
    android:inputType="text"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.845"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/editTextText"
    app:layout_constraintVertical_bias="0.066" />
```

```
</androidx.constraintlayout.widget.ConstraintLayout>
```

### MainActivity.java

```
package com.example.hit_logo;
```

```

import android.os.Bundle;

import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_main);
        ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main), (v, insets)
->{
            Insets systemBars = insets.getInsets(WindowInsetsCompat.Type.systemBars());
            v.setPadding(systemBars.left, systemBars.top, systemBars.right,
systemBars.bottom);
            return insets;
        });
    }
}

```

## 8. Design an app to make a calculator.

Ans: App name: SmartCalc

### activity\_main.xml

```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:orientation="vertical"
    android:padding="16dp"
    android:layout_width="match_parent"
    android:layout_height="match_parent">

    <TextView
        android:id="@+id/tvInput"
        android:text="0"
        android:textSize="36sp"
        android:gravity="end"

```

```
android:padding="24dp"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:background="#EFEFEF" />
```

```
<GridLayout
```

```
    android:columnCount="4"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="20dp">
```

```
    <!-- Row 1 -->
```

```
        <Button android:text="7" android:onClick="buttonClick" />
        <Button android:text="8" android:onClick="buttonClick" />
        <Button android:text="9" android:onClick="buttonClick" />
        <Button android:text="/" android:onClick="buttonClick" />
```

```
    <!-- Row 2 -->
```

```
        <Button android:text="4" android:onClick="buttonClick" />
        <Button android:text="5" android:onClick="buttonClick" />
        <Button android:text="6" android:onClick="buttonClick" />
        <Button android:text="*" android:onClick="buttonClick" />
```

```
    <!-- Row 3 -->
```

```
        <Button android:text="1" android:onClick="buttonClick" />
        <Button android:text="2" android:onClick="buttonClick" />
        <Button android:text="3" android:onClick="buttonClick" />
        <Button android:text="-" android:onClick="buttonClick" />
```

```
    <!-- Row 4 -->
```

```
        <Button android:text="C" android:onClick="clearClick" />
        <Button android:text="0" android:onClick="buttonClick" />
        <Button android:text="=" android:onClick="calculateClick" />
        <Button android:text="+" android:onClick="buttonClick" />
```

```
</GridLayout>
```

```
</LinearLayout>
```

## MainActivity.java

```
package com.example.smartcalc;
```

```
import androidx.appcompat.app.AppCompatActivity;
```

```
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity {

    TextView tvInput;
    StringBuilder inputBuilder;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        tvInput = findViewById(R.id.tvInput);
        inputBuilder = new StringBuilder();
    }

    public void buttonClick(View view) {
        Button b = (Button) view;
        String text = b.getText().toString();
        inputBuilder.append(text);
        tvInput.setText(inputBuilder.toString());
    }

    public void clearClick(View view) {
        inputBuilder.setLength(0);
        tvInput.setText("");
    }

    public void calculateClick(View view) {
        try {
            double result = evaluateExpression(inputBuilder.toString());
            tvInput.setText(String.valueOf(result));
            inputBuilder.setLength(0);
            inputBuilder.append(result);
        } catch (Exception e) {
            tvInput.setText("Error");
            inputBuilder.setLength(0);
        }
    }
}
```

```

}

// Very basic expression evaluator (supports + - * / only)
private double evaluateExpression(String expression) {
    // This is a simple and limited evaluator
    // You can later replace this with a more advanced parser
    String[] tokens = expression.split("(?<=[-+*/])|(?=[-+*/])");

    double result = Double.parseDouble(tokens[0].trim());
    for (int i = 1; i < tokens.length; i += 2) {
        String operator = tokens[i].trim();
        double next = Double.parseDouble(tokens[i + 1].trim());

        switch (operator) {
            case "+":
                result += next;
                break;
            case "-":
                result -= next;
                break;
            case "*":
                result *= next;
                break;
            case "/":
                result /= next;
                break;
        }
    }
    return result;
}
}

```

**9.Design a layout which looks like the following.**

**Ans: App name:RegLayout**



## activity\_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:id="@+id/main"
android:layout_width="match_parent"
android:layout_height="match_parent"
tools:context=".MainActivity">
```

```
<TextView
    android:id="@+id/textView"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Registration Form"
    android:textSize="24sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.542"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.022" />
```

```
<EditText
    android:id="@+id/editTextText"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="28dp"
    android:ems="10"
    android:inputType="text"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.835"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView"
    app:layout_constraintVertical_bias="0.0" />
```

```
<EditText
    android:id="@+id/editTextText2"
```

```
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginTop="24dp"
android:ems="10"
android:inputType="text"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.84"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/editTextText"
app:layout_constraintVertical_bias="0.0" />
```

<EditText

```
android:id="@+id/editTextTextEmailAddress"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginTop="24dp"
android:ems="10"
android:inputType="textEmailAddress"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.84"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/editTextPhone"
app:layout_constraintVertical_bias="0.0" />
```

<EditText

```
android:id="@+id/editTextPhone"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginTop="20dp"
android:ems="10"
android:inputType="phone"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.84"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/editTextText2"
app:layout_constraintVertical_bias="0.025" />
```

<TextView

```
android:id="@+id/textView2"
android:layout_width="81dp"
android:layout_height="26dp"
android:text=" Name : "
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toStartOf="@+id/editTextText"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.134" />
```

<TextView

```
android:id="@+id/textView4"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Mobile number : "
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.068"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/textView6"
app:layout_constraintVertical_bias="0.106" />
```

<TextView

```
android:id="@+id/textView5"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Email Id : "
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.185"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/textView4"
app:layout_constraintVertical_bias="0.116" />
```

<TextView

```
android:id="@+id/textView6"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Address : "
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
```

```
app:layout_constraintHorizontal_bias="0.059"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/textView2"
app:layout_constraintVertical_bias="0.042" />
```

```
<Button
    android:id="@+id/button"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Submit"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.526"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/editTextTextEmailAddress"
    app:layout_constraintVertical_bias="0.221" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

### MainActivity.java

```
package com.example.reglayout;

import android.os.Bundle;

import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_main);
        ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main), (v, insets)
-> {
            Insets systemBars = insets.getInsets(WindowInsetsCompat.Type.systemBars());
            v.setPadding(systemBars.left, systemBars.top, systemBars.right,
systemBars.bottom);
```

```

        return insets;
    });
}
}

```

## 10. Design a layout which shows a bulk text scrollable vertically.

**Ans: App name: ScrollView**

### activity\_main.xml

```

<?xml version="1.0" encoding="utf-8"?>
<ScrollView xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:padding="16dp">

    <TextView
        android:id="@+id/article_text"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="@string/long_text"
        android:textSize="16sp"
        android:lineSpacingExtra="4dp" />

</ScrollView>

```

### MainActivity.java

```

package com.example.scrollview;

import android.os.Bundle;
import android.widget.TextView;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        TextView textView = findViewById(R.id.article_text);
    }
}

```

```
textView.setText(
```

```
"Where does it come from?\n" +
```

"Contrary to popular belief, Lorem Ipsum is not simply random text. It has roots in a piece of classical Latin literature from 45 BC, making it over 2000 years old. Richard McClintock, a Latin professor at Hampden-Sydney College in Virginia, looked up one of the more obscure Latin words, consectetur, from a Lorem Ipsum passage, and going through the cites of the word in classical literature, discovered the undoubtable source. Lorem Ipsum comes from sections 1.10.32 and 1.10.33 of \"de Finibus Bonorum et Malorum\" (The Extremes of Good and Evil) by Cicero, written in 45 BC. This book is a treatise on the theory of ethics, very popular during the Renaissance. The first line of Lorem Ipsum, \"Lorem ipsum dolor sit amet..\", comes from a line in section 1.10.32.\n"

```
+ 
```

```
"\n" +
```

"The standard chunk of Lorem Ipsum used since the 1500s is reproduced below for those interested. Sections 1.10.32 and 1.10.33 from \"de Finibus Bonorum et Malorum\" by Cicero are also reproduced in their exact original form, accompanied by English versions from the 1914 translation by H. Rackham.\n"

```
+ 
```

```
"\n" +
```

```
"Where can I get some?\n" +
```

"There are many variations of passages of Lorem Ipsum available, but the majority have suffered alteration in some form, by injected humour, or randomised words which don't look even slightly believable. If you are going to use a passage of Lorem Ipsum, you need to be sure there isn't anything embarrassing hidden in the middle of text. All the Lorem Ipsum generators on the Internet tend to repeat predefined chunks as necessary, making this the first true generator on the Internet. It uses a dictionary of over 200 Latin words, combined with a handful of model sentence structures, to generate Lorem Ipsum which looks reasonable. The generated Lorem Ipsum is therefore always free from repetition, injected humour, or non-characteristic words etc.\n"

```
+ 
```

```
"\n" +
```

```
"5\n" +
```

```
"\tparagraphs\n" +
```

```
"\twords\n" +
```

```
"\tbytes\n" +
```

```
"\tlists\n" +
```

```
"\tStart with 'Lorem\n" +
```

```
"ipsum dolor sit amet...\n" +
```

```
"\n" +
```

"Donate: If you use this site regularly and would like to help keep the site on the Internet, please consider donating a small sum to help pay for the hosting and bandwidth bill. There is no minimum donation, any sum is appreciated - [click here to](#)

donate using PayPal. Thank you for your support. Donate bitcoin:

16UQLq1HZ3CNwhvgrarV6pMoA2CDjb4tyF\n" +

"Translations: Can you help translate this site into a foreign language ? Please email us with details if you can help.\n" +

"There is a set of mock banners available here in three colours and in a range of standard banner sizes:\n" +

"BannersBannersBanners\n" +

"NodeJS Python Interface GTK Lipsum Rails .NET\n" +

"The standard Lorem Ipsum passage, used since the 1500s\n" +

"\"Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.\"\"\" +

\"\" +

"Section 1.10.32 of \"de Finibus Bonorum et Malorum\", written by Cicero in 45 BC\n" +

"\"Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam, eaque ipsa quae ab illo inventore veritatis et quasi architecto beatae vitae dicta sunt explicabo. Nemo enim ipsam voluptatem quia voluptas sit aspernatur aut odit aut fugit, sed quia consequuntur magni dolores eos qui ratione voluptatem sequi nesciunt. Neque porro quisquam est, qui dolorem ipsum quia dolor sit amet, consectetur, adipisci velit, sed quia non numquam eius modi tempora incidunt ut labore et dolore magnam aliquam quaerat voluptatem. Ut enim ad minima veniam, quis nostrum exercitationem ullam corporis suscipit laboriosam, nisi ut aliquid ex ea commodi consequatur? Quis autem vel eum iure reprehenderit qui in ea voluptate velit esse quam nihil molestiae consequatur, vel illum qui dolorem eum fugiat quo voluptas nulla pariatur?\"\"\" +

\"\" +

"1914 translation by H. Rackham\n" +

"\"But I must explain to you how all this mistaken idea of denouncing pleasure and praising pain was born and I will give you a complete account of the system, and expound the actual teachings of the great explorer of the truth, the master-builder of human happiness. No one rejects, dislikes, or avoids pleasure itself, because it is pleasure, but because those who do not know how to pursue pleasure rationally encounter consequences that are extremely painful. Nor again is there anyone who loves or pursues or desires to obtain pain of itself, because it is pain, but because occasionally circumstances occur in which toil and pain can procure him some great pleasure. To take a trivial example, which of us ever undertakes laborious physical exercise, except to obtain some advantage from it? But who has any right to find fault

with a man who chooses to enjoy a pleasure that has no annoying consequences, or one who avoids a pain that produces no resultant pleasure?"

"

"Section 1.10.33 of \"de Finibus Bonorum et Malorum\", written by Cicero in 45 BC"

"At vero eos et accusamus et iusto odio dignissimos ducimus qui blanditiis praesentium voluptatum deleniti atque corrupti quos dolores et quas molestias excepturi sint occaecati cupiditate non provident, similique sunt in culpa qui officia deserunt mollitia animi, id est laborum et dolorum fuga. Et harum quidem rerum facilis est et expedita distinctio. Nam libero tempore, cum soluta nobis est eligendi optio cumque nihil impedit quo minus id quod maxime placeat facere possimus, omnis voluptas assumenda est, omnis dolor repellendus. Temporibus autem quibusdam et aut officiis debitis aut rerum necessitatibus saepe eveniet ut et voluptates repudiandae sint et molestiae non recusandae. Itaque earum rerum hic tenetur a sapiente delectus, ut aut reiciendis voluptatibus maiores alias consequatur aut perferendis doloribus asperiores repellat."

"

"1914 translation by H. Rackham"

"On the other hand, we denounce with righteous indignation and dislike men who are so beguiled and demoralized by the charms of pleasure of the moment, so blinded by desire, that they cannot foresee the pain and trouble that are bound to ensue; and equal blame belongs to those who fail in their duty through weakness of will, which is the same as saying through shrinking from toil and pain. These cases are perfectly simple and easy to distinguish. In a free hour, when our power of choice is untrammelled and when nothing prevents our being able to do what we like best, every pleasure is to be welcomed and every pain avoided. But in certain circumstances and owing to the claims of duty or the obligations of business it will frequently occur that pleasures have to be repudiated and annoyances accepted. The wise man therefore always holds in these matters to this principle of selection: he rejects pleasures to secure other greater pleasures, or else he endures pains to avoid worse pains."

}

}

create:app>res>values>strings.xml

<resources>

<string name="app\_name">ScrollableTextApp</string>

<string name="long\_text">

</string>

</resources>



## 11.Design an app for multi activity screen.(using INTENT).

**Ans: App name: multi\_activity**

### **activity\_main.xml**

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:gravity="center"
    android:orientation="vertical">

    <Button
        android:id="@+id/next_button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Go to Second Screen" />
</LinearLayout>
```

### **MainActivity.java**

```
package com.example.multi_activity;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {
    @Override
```

```

protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);

    Button nextButton = findViewById(R.id.next_button);
    nextButton.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            // Intent to go to SecondActivity
            Intent intent = new Intent(MainActivity.this,
com.example.multi_activity.SecondActivity.class);
            startActivity(intent);
        }
    });
}
}

```

create: app>res>layout>activity\_second.xml

```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:gravity="center"
    android:orientation="vertical">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Welcome to the Second Screen!"
        android:textSize="20sp" />

</LinearLayout>

```

Create:app>java>com.example.multi\_activity>SecondActivity.java

```

package com.example.multi_activity;

import android.os.Bundle;
import androidx.appcompat.app.AppCompatActivity;

public class SecondActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_second);
    }
}

```

app>manifests>AndroidManifest.xml

```

<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools">

    <application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data_extraction_rules"
        android:fullBackupContent="@xml/backup_rules"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportRtl="true"
        android:theme="@style/Theme.Multi_activity"
        tools:targetApi="31">
        <activity

            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

```

```

        <category android:name="android.intent.category.LAUNCHER" />
    </intent-filter>
</activity>
<activity android:name=".SecondActivity" />

</application>

</manifest>

```

## 12. Design an App to send data (Message) from one Activity from another Activity.

**Ans: App name:** senddata

### activity\_main.xml

```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:orientation="vertical" android:layout_width="match_parent"
    android:layout_height="match_parent" android:padding="16dp">

    <EditText
        android:id="@+id/editTextMessage"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Enter your message here" />

    <Button
        android:id="@+id/buttonSend"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Send Message"
        android:layout_marginTop="16dp" />
</LinearLayout>

```

### MainActivity.java

```

package com.example.senddata;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {
    EditText messageInput;
    Button sendButton;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        messageInput = findViewById(R.id.editTextMessage);
        sendButton = findViewById(R.id.buttonSend);

        sendButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String message = messageInput.getText().toString();

                Intent intent = new Intent(MainActivity.this, SecondActivity.class);
                intent.putExtra("user_message", message); // send data with key
                startActivity(intent);
            }
        });
    }
}

```

create: app>res>layout>activity\_second.xml

```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    android:orientation="vertical" android:layout_width="match_parent"
    android:layout_height="match_parent" android:padding="16dp"
    android:gravity="center">

    <TextView
        android:id="@+id/textViewReceived"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="No message yet"
        android:textSize="20sp" />
</LinearLayout>

```

Create:app>java>com.example.multi\_activity>SecondActivity.java

```

package com.example.senddata;

import android.os.Bundle;
import android.widget.TextView;
import androidx.appcompat.app.AppCompatActivity;

public class SecondActivity extends AppCompatActivity {
    TextView receivedMessage;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_second);

        receivedMessage = findViewById(R.id.textViewReceived);

        // Get data from intent
        String message = getIntent().getStringExtra("user_message");
        receivedMessage.setText("Received Message:\n" + message);
    }
}

```

```
}  
}
```

app>manifests>AndroidManifest.xml

```
<?xml version="1.0" encoding="utf-8"?>  
<manifest xmlns:android="http://schemas.android.com/apk/res/android"  
    xmlns:tools="http://schemas.android.com/tools">  
  
    <application  
        android:allowBackup="true"  
        android:dataExtractionRules="@xml/data_extraction_rules"  
        android:fullBackupContent="@xml/backup_rules"  
        android:icon="@mipmap/ic_launcher"  
        android:label="@string/app_name"  
        android:roundIcon="@mipmap/ic_launcher_round"  
        android:supportsRtl="true"  
        android:theme="@style/Theme.Senddata"  
        tools:targetApi="31">  
        <activity  
            android:name=".MainActivity"  
            android:exported="true">  
            <intent-filter>  
                <action android:name="android.intent.action.MAIN" />  
  
                <category android:name="android.intent.category.LAUNCHER" />  
            </intent-filter>  
        </activity>  
        <activity android:name=".SecondActivity" />  
  
    </application>  
  
</manifest>
```

### 13. Design an App to send data (integer) from one Activity from another Activity

**Ans: App name:** sendint

#### activity\_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:orientation="vertical" android:layout_width="match_parent"
    android:layout_height="match_parent" android:padding="16dp">

    <EditText
        android:id="@+id/editTextMessage"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:inputType="number"
        android:hint="Enter your message here" />

    <Button
        android:id="@+id/buttonSend"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Send Message"
        android:layout_marginTop="16dp" />
</LinearLayout>
```

#### MainActivity.java

```
package com.example.sendint;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {
    EditText messageInput;
    Button sendButton;
```



```

@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);

    messageInput = findViewById(R.id.editTextMessage);
    sendButton = findViewById(R.id.buttonSend);

    sendButton.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            String message = messageInput.getText().toString();

            Intent intent = new Intent(MainActivity.this, SecondActivity.class);
            intent.putExtra("user_message", message); // send data with key
            startActivity(intent);
        }
    });
}
}

```

**create: app>res>layout>activity\_second.xml**

```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:orientation="vertical" android:layout_width="match_parent"
    android:layout_height="match_parent" android:padding="16dp"
    android:gravity="center">

    <TextView
        android:id="@+id/textViewReceived"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="No message yet"
        android:textSize="20sp" />

</LinearLayout>

```

**Create:app>java>com.example.multi\_activity>SecondActivity.java**

```

package com.example.sendint;

import android.os.Bundle;
import android.widget.TextView;

```

```

import androidx.appcompat.app.AppCompatActivity;

public class SecondActivity extends AppCompatActivity {
    TextView receivedMessage;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_second);

        receivedMessage = findViewById(R.id.textViewReceived);

        // Get data from intent
        String message = getIntent().getStringExtra("user_message");
        receivedMessage.setText("Received Message:\n" + message);
    }
}

```

### app>manifests>AndroidManifest.xml

```

<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools">

    <application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data_extraction_rules"
        android:fullBackupContent="@xml/backup_rules"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportRtl="true"
        android:theme="@style/Theme.Sendint"
        tools:targetApi="31">
        <activity
            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>

```

```
</activity>
<activity android:name=".SecondActivity" />
</application>
```

```
</manifest>
```

**14. Design a quiz app using the layout as follows. When you click the submit button, it shows the total score.**

**Ans: App name:** quizapp

#### **activity\_main.xml**

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:id="@+id/container"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:padding="24dp"
    android:gravity="center">

    <ImageView
        android:layout_width="80dp"
        android:layout_height="80dp"
        />

    <TextView
        android:id="@+id/questionText"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Question"
        android:textSize="20sp"
        android:paddingTop="20dp" />

    <LinearLayout
        android:orientation="horizontal"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="20dp">

        <Button
```

```
    android:id="@+id/yesButton"
    android:layout_width="100dp"
    android:layout_height="wrap_content"
    android:text="YES" />
```

```
<Button
    android:id="@+id/noButton"
    android:layout_width="100dp"
    android:layout_height="wrap_content"
    android:text="NO"
    android:layout_marginStart="10dp"/>
</LinearLayout>
```

```
<Button
    android:id="@+id/nextButton"
    android:layout_width="200dp"
    android:layout_height="wrap_content"
    android:text="NEXT"
    android:layout_marginTop="20dp" />
```

```
<TextView
    android:id="@+id/scoreText"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text=""
    android:textSize="18sp"
    android:textColor="@android:color/holo_green_dark"
    android:layout_marginTop="30dp"/>
</LinearLayout>
```

### MainActivity.java

```
package com.example.quizapp;
```

```
import android.os.Bundle;
import android.view.View;
import android.widget.*;
import androidx.appcompat.app.AppCompatActivity;
```

```
public class MainActivity extends AppCompatActivity {
```

```
    String[] questions = {
```

```
        "Is Dennis Ritchie the father of C Language?",
        "Is C object Oriented Language?",
        "Is 'for' a keyword in C language?",
        "Is stdio.h a function in C language?"
    };
```

```
boolean[] correctAnswers = { true, false, true, false };
```

```
int currentQuestion = 0;
```

```
int score = 0;
```

```
boolean selectedAnswer = false;
```

```
TextView questionText, scoreText;
```

```
Button yesButton, noButton, nextButton;
```

```
@Override
```

```
protected void onCreate(Bundle savedInstanceState) {
```

```
    super.onCreate(savedInstanceState);
```

```
    setContentView(R.layout.activity_main);
```

```
    questionText = findViewById(R.id.questionText);
```

```
    scoreText = findViewById(R.id.scoreText);
```

```
    yesButton = findViewById(R.id.yesButton);
```

```
    noButton = findViewById(R.id.noButton);
```

```
    nextButton = findViewById(R.id.nextButton);
```

```
    loadQuestion();
```

```
    yesButton.setOnClickListener(v -> selectedAnswer = true);
```

```
    noButton.setOnClickListener(v -> selectedAnswer = false);
```

```
    nextButton.setOnClickListener(v -> {
```

```
        if (selectedAnswer == correctAnswers[currentQuestion]) {
```

```
            score++;
```

```
        }
```

```
        currentQuestion++;
```

```
        if (currentQuestion < questions.length) {
```

```
            loadQuestion();
```

```
        } else {
```

```
            questionText.setText("Quiz Completed!");
```

```
            scoreText.setText("Your Score: " + score + "/" + questions.length);
```

```

        yesButton.setVisibility(View.GONE);
        noButton.setVisibility(View.GONE);
        nextButton.setVisibility(View.GONE);
    }
});
}

void loadQuestion() {
    questionText.setText(questions[currentQuestion]);
}
}

```

## 15.Design an App to play a music.

**Ans:App name: Musuc**

**Step1:**download this music

file(<https://drive.google.com/file/d/1bsEezBOz5Lur7b6cpfLj4N-d6GDouZaV/view?usp=sharing>)

**Step2:** **Add music file into res directory(app>res>raw)** (make sure file name should be “fikarnot.mp3”)

### **activity\_main.xml**

```

<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <Button
        android:id="@+id/stop"

```

```
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginTop="180dp"
android:text="stop"
android:textSize="20sp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/textView"
app:layout_constraintVertical_bias="0.058" />
```

<Button

```
android:id="@+id/play"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="68dp"
android:layout_marginTop="96dp"
android:text="play"
app:layout_constraintEnd_toStartOf="@+id/stop"
app:layout_constraintHorizontal_bias="0.065"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/textView" />
```

<Button

```
android:id="@+id/pause"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="pause"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.56"
app:layout_constraintStart_toEndOf="@+id/play"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.288" />
```

<TextView

```
android:id="@+id/textView"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Welcome to Music"
android:textSize="34sp"
```

```
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.496"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.094" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

## MainActivity.java

```
package com.example.musuc;

import android.media.MediaPlayer;
import android.os.Bundle;
import android.widget.Button;
import android.widget.ImageButton;

import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

public class MainActivity extends AppCompatActivity {
    MediaPlayer mediaPlayer;
    Button stop;
    Button play;
    Button pause;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_main);

        play = findViewById(R.id.play);
        pause = findViewById(R.id.pause);
        stop = findViewById(R.id.stop);

        mediaPlayer = MediaPlayer.create(this, R.raw.fikarnot);
        play.setOnClickListener(v -> {
            if (!mediaPlayer.isPlaying()) {
                mediaPlayer.start();
            }
        });
    }
}
```



```
    }  
    });  
  
    pause.setOnClickListener(v -> {  
        if (mediaPlayer.isPlaying()) {  
            mediaPlayer.pause();  
        }  
    });  
  
    stop.setOnClickListener(v -> {  
        if (mediaPlayer.isPlaying()) {  
            mediaPlayer.stop();  
            mediaPlayer = MediaPlayer.create(this, R.raw.fikarnot);  
        }  
    });  
}  
  
protected void onDestroy() {  
    if (mediaPlayer != null) {  
        mediaPlayer.release();  
        mediaPlayer = null;  
    }  
    super.onDestroy();  
}  
}
```